



Rangeland Database and Field Data Entry System

For Inventory, Assessment, Monitoring and Management

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Introduction

Databases are becoming increasingly important in managing large datasets. The recently developed Rangeland Database and Field Data Entry System is a Microsoft Access database that can be easily used without Access knowledge. The database was developed to increase data entry speed and precision in both field and office. Data can be rapidly entered in the field using a Tablet PC (touchscreen entry) or in the office on a standard computer (keyboard entry) with user-specified choice lists. The database can be easily customized to suit the user's needs. The database has many applications including: monitoring, collecting quantitative data to support rangeland assessments, collecting qualitative data to assess range health, and documenting ecological site descriptions.

Methods (more are being added)

Vegetation

Dry Weight Rank
Gap Intercept
Line-Point Intercept
Ocular Cover Estimate
Plant Density/Belt
Transect
Plant Production
Species Richness
Tree Inventory (includes Density)
Vegetation Structure (Cover Pole/Board)

Soils

Single-Ring Infiltrometer
Soil Compaction (Impact Penetrometer)
Soil Stability

Riparian

Channel/Gully Profile

Qualitative Assessment

Rangeland Health

Free Download Site:

http://usda-ars.nmsu.edu/monit_assess/monitoring.php

When a database upgrade is available, a simple function helps the user quickly import their current database directly into the new version.

Additional Resources

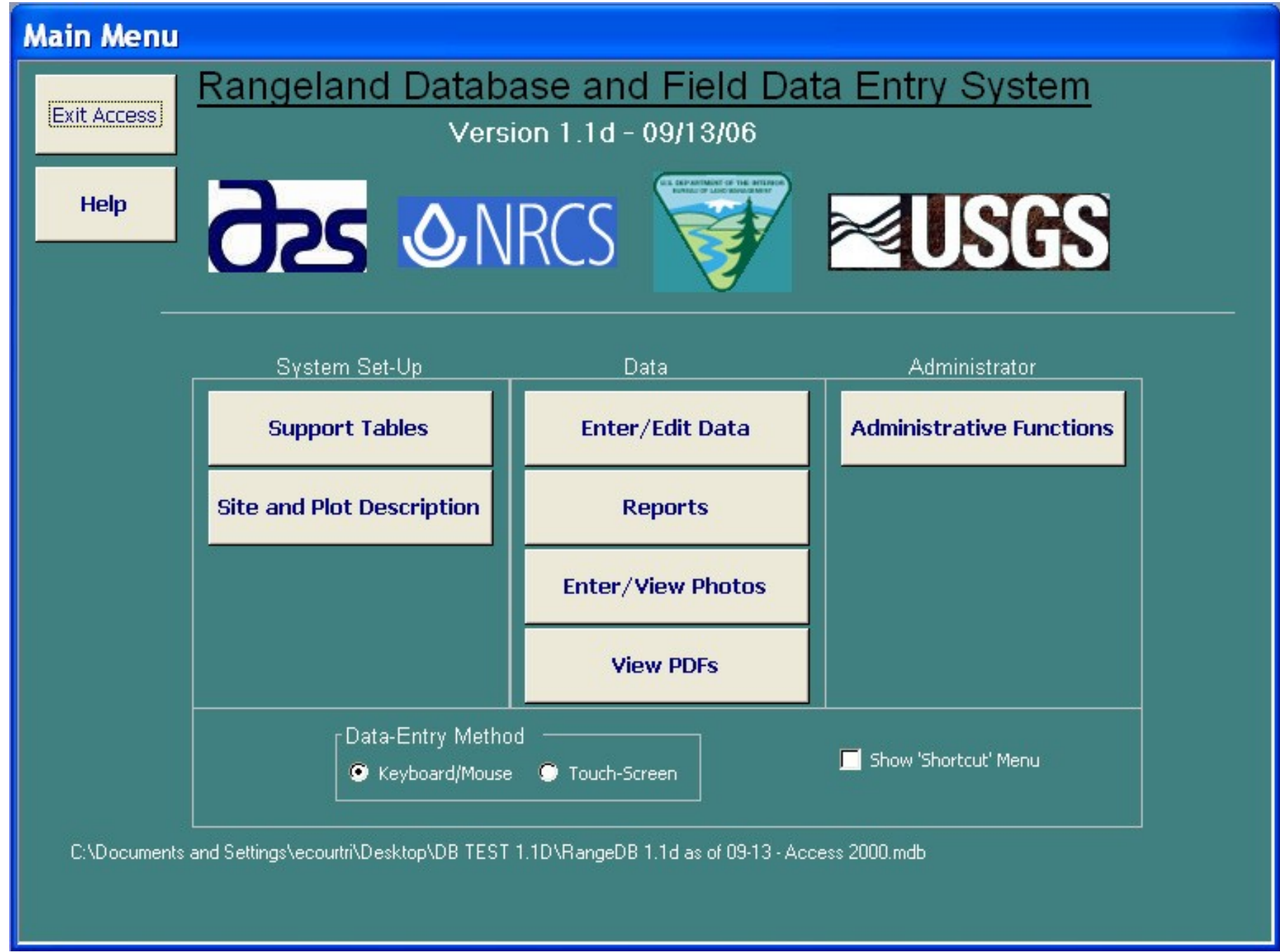
- “Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Vol. I and II.” by Jeffrey E. Herrick, Justin W. Van Zee, Kris M. Havstad, Laura M. Burkett and Walter G. Whitford. Available from University of Arizona Press.
- “Interpreting Indicators of Rangeland Health (Version 4.0)”. Available online at www.blm.gov/nstc/library/techref.htm
- Ecological Site Description Development Database. For additional information, contact Laura Burkett (lburkett@jornada.nmsu.edu).

Acknowledgements

This project was developed in cooperation with the USGS, NRCS and BLM. The following individuals have contributed to the project: Laura Burkett, Dave Pyke, Mike Pellant, Pat Shaver, Jack Alexander, Ryan Meccage, and Kara Hempy Mayer.

Features

- Simple interface** (an Access database that doesn't require knowledge of Access to use)
- Tablet PC** (touchscreen) and **keyboard** modes
- Flexible** – adapts to most monitoring applications
- Drop-down **choice lists** increase data entry speed and precision
- Automated** indicator calculations and reports, and ability to create user-defined queries
- Import** data from Excel into database
- Automated plant species list **downloads** from USDA/NRCS PLANTS database
- Three levels of user-defined **security** to increase data entry consistency



Example: Line-Point Intercept for Management

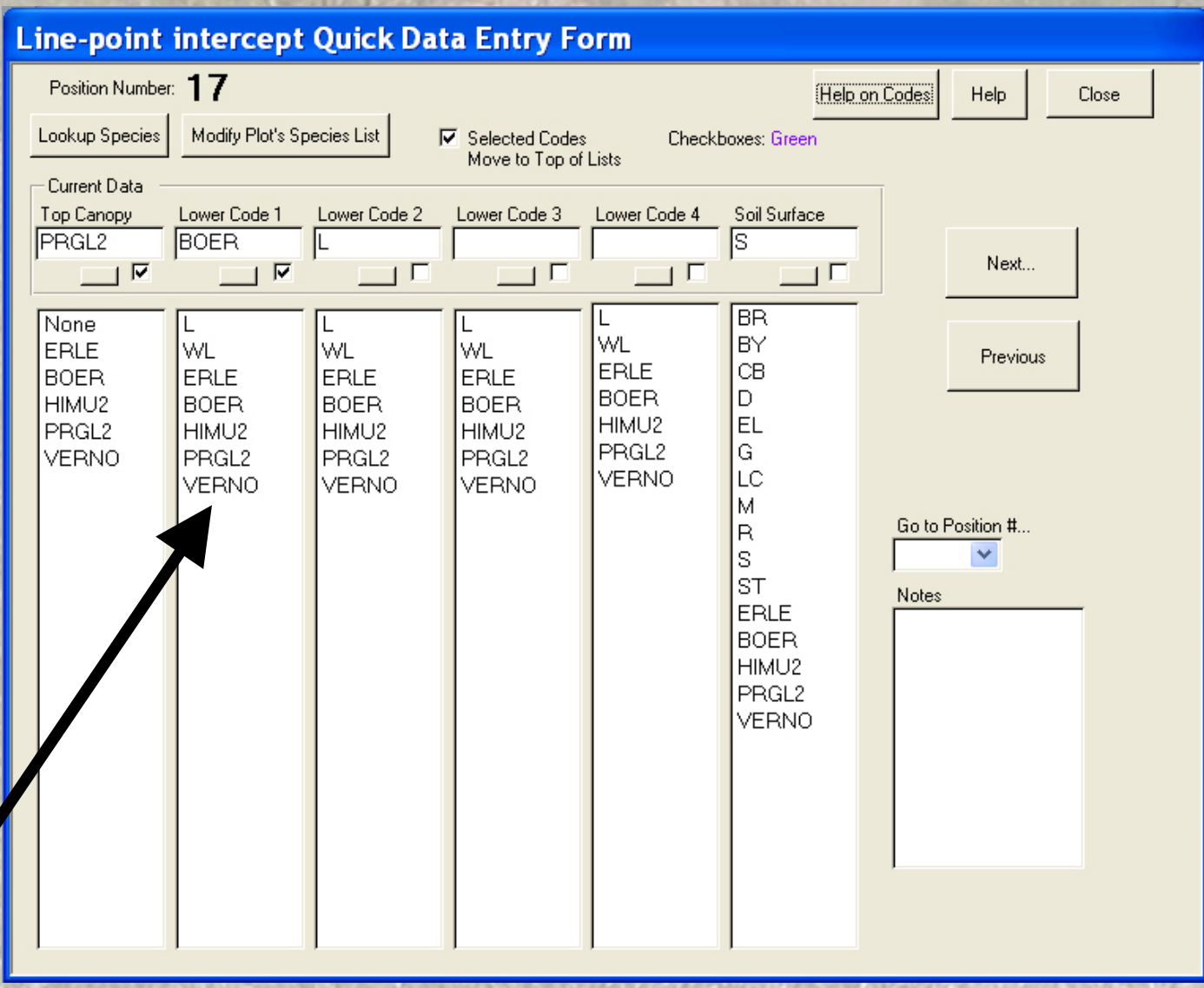
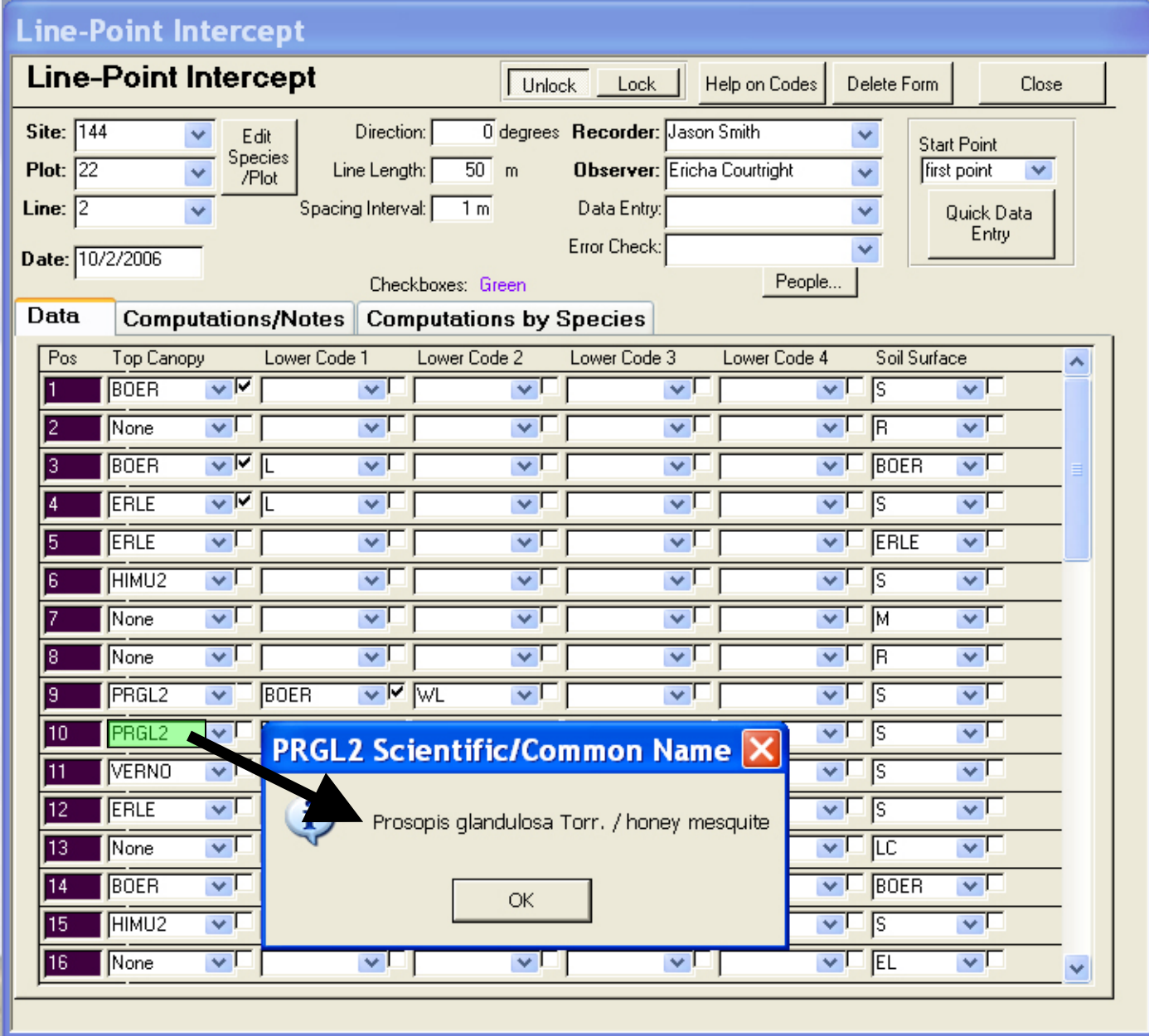
Flexible Design

- One-Time Sampling for Assessment: Quick data collection with minimal metadata
- Long-Term Monitoring: Data collection for an established site and plot with extensive metadata

Refine Design

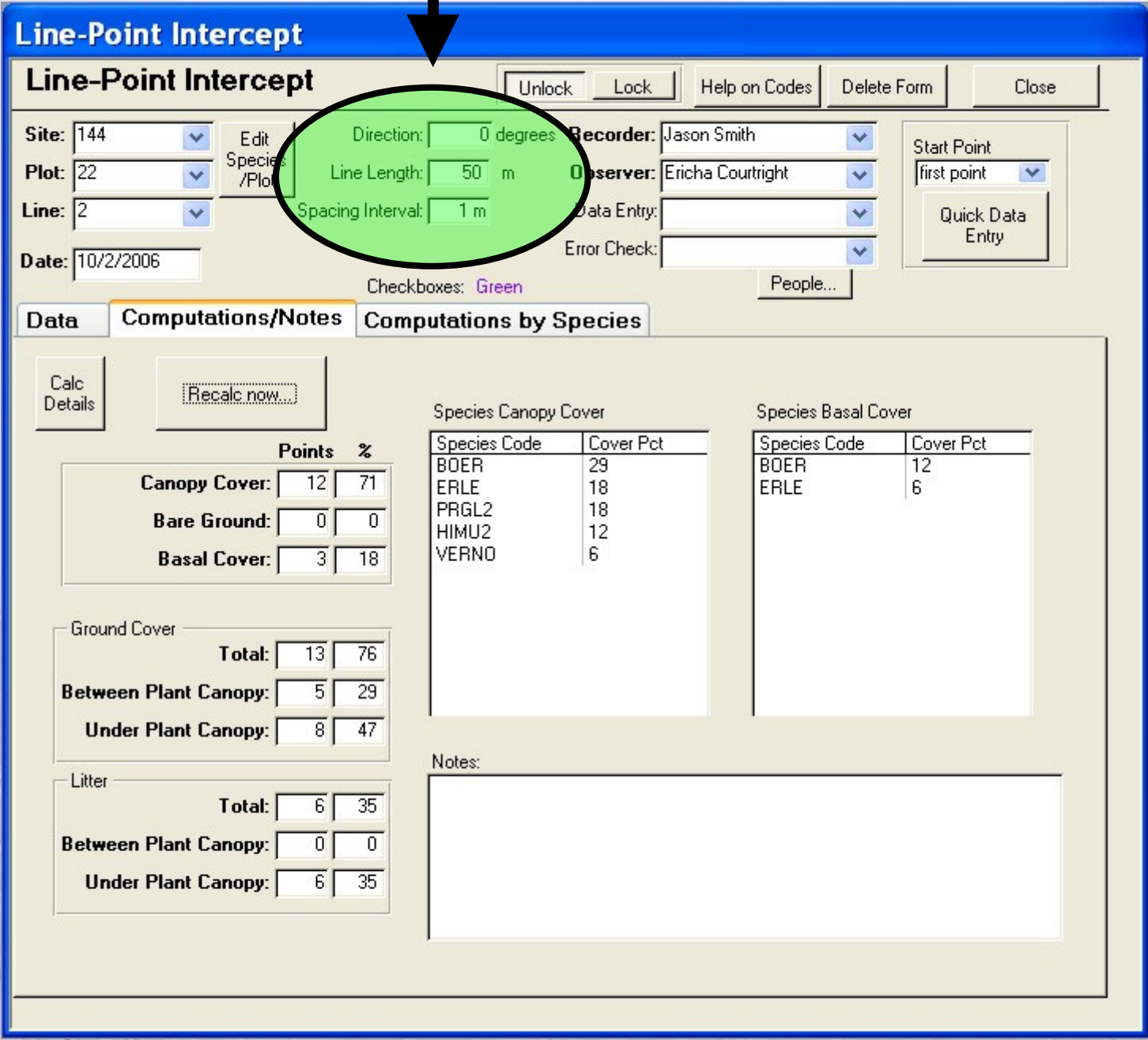
Modify Management

User defined codes or plant species codes imported from USDA/NRCS PLANTS database

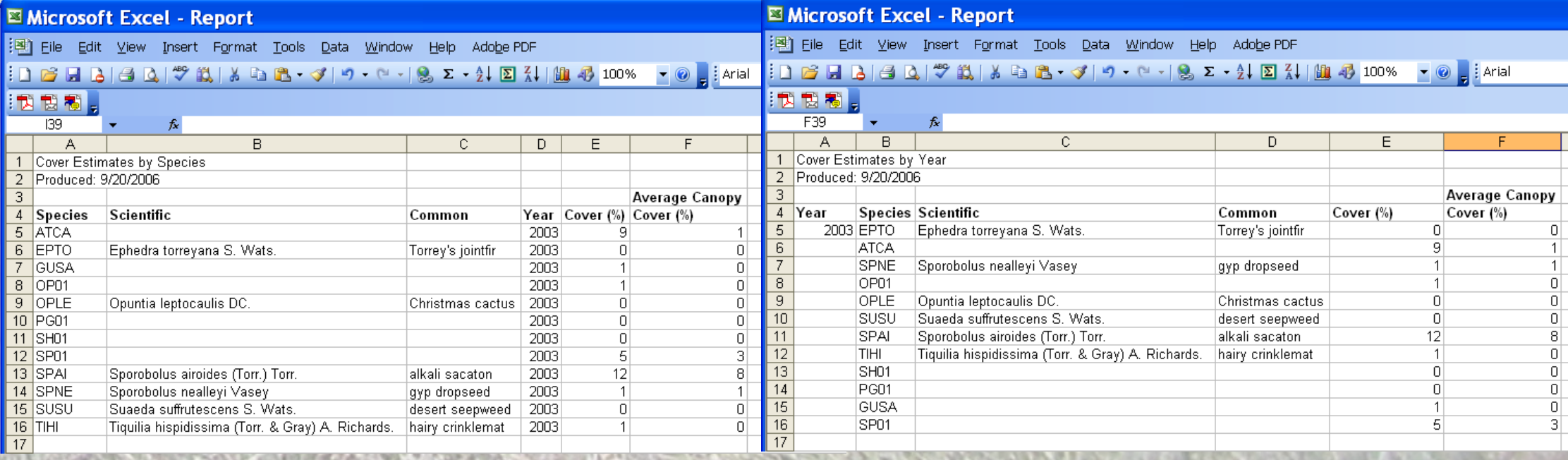
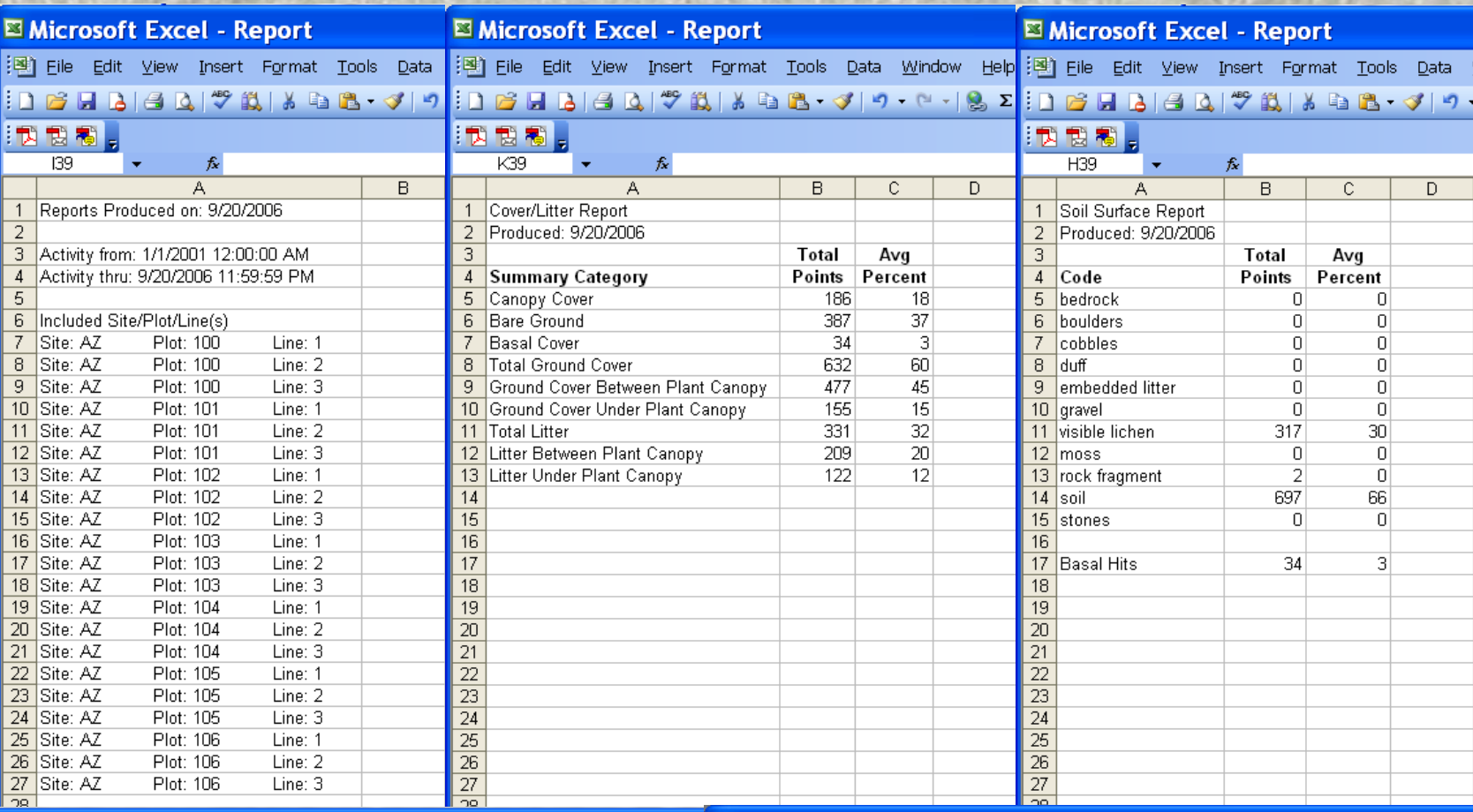


Data Entry

English/metric options for all methods



Automatic Calculations on Data Entry Form



Interpretation

Automatic Reports